UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,638	03/29/2001	Dan Martin Scott	09090.0003-01000	5708

7590 02/04/2004

Steven W. Thrasher
Jackson Walker, LLP
2435 North Central Expressway, #600
Richardson, TX 75080

EXAMINER	
AMINI, JAVID A	
ART UNIT	**PAPER NUMBER**
2672	12

DATE MAILED: 02/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/821,638	SCOTT ET AL.	
	Examiner	Art Unit	
	Javid A Amini	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-14 and 16-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Continued Examination Under 37 CFR 1.114

- A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2003 that corresponds to Amendment after final filed on September 04, 2003 has been entered.
- Acknowledgment of new Title and new abstract.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-14, and 16-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Eppler US patent 6,084,989, and further in view of Schipper US patent 5,815,118.

1. As per claim 1, Eppler discloses in (Col. 2, lines 6-12). A disclosed method that automatically determines line and pixel coordinates (longitude coordinate and a latitude coordinate) of landmarks in the digitized image (also can be a scanned map image) with sub pixel accuracy (the first map being a digital raster map, and the second map being a previously georeferenced map), as for "the first map being a digital raster map, having a plurality of pixel locations, and the

second map being a previously georeferenced map, having associated geographic coordinates, wherein the first map is similar to the second map, each pixel location includes an associated x-coordinate and y-coordinate, and each geographic coordinate includes an associated longitude coordinate and an associated latitude coordinate;". The system and method use landmarks (can be shown by points on the map in reference to the same area on other map coordinates) in symbolic form, and in particular, perimeters of lakes and islands, derived from precise cartographic source materials, as for "receiving an entry identifying a first point pair, wherein a first pixel location on the first map is associated with a first geographic coordinate on the second map and the first pixel location is located at a position on the first map analogous to the first geographic coordinate on the second map; receiving an entry identifying a second point pair, wherein a second pixel location on the first map is associated with a second geographic coordinate on the second map and the second pixel location is located at a position on the first map analogous to the second geographic coordinate on the second map". When assigning points on the two similar maps, it is very obvious that the coordinates and parameters are must have the same values, as for "assigning to the first pixel location the longitude coordinate and the latitude coordinate associated with the first geographic coordinate; assigning to the second pixel location the longitude coordinate and the latitude coordinate associated with the second geographic coordinate; and creating a mathematical georeferencing function for assigning appropriate geographic coordinates to any one of the plurality of pixel locations". The current system is capable of displaying more than one image (raster/vector images) see Fig. 3. An entry identifying a point on the first map will be the identical to a point on the second map. Eppler does not explicitly specify displaying a first map and a second map, however, Eppler on col. 1, lines 43-53 recognizes that in the past, the position of a landmarks in a digitized images was automatically determined using reference images derived from previously acquired digitized images containing the landmark that were matched to the landmark in the currently processed digitized image. This approach has two problems (similar to Applicant's invention). The exact position of the reference image was not known with subpixel accuracy.

Also, several different reference images were needed to match landmarks contained in the currently processed image when the reference images were obtained under different diurnal and seasonal conditions. On the other hand Schipper in the abstract teaches first and second maps. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Schipper into Eppler in order to satisfy the Applicant's invention. Since the accuracy is an important factor in Applicant's invention, therefore, the combination of Schipper and Eppler inventions would provide a proper analysis to evaluate the accuracy of the two inventions. And also a person skilled in the art would spend less time and money to accomplish what the Applicant's invention is claimed.

2. As per claims 2 and 3, Eppler discloses in Fig. 3 a vector and digital raster maps, and also it can be called first, second, third and etc maps on the display, as for "the second map is a vector map and also can be a digital raster map".

3. As per claim 4, Eppler discloses in (Col. 1, lines 43-53) that in the past, the position of a landmarks in a digitized images was automatically determined using reference images derived from previously acquired digitized images containing the landmark that were matched to the landmark (determined longitude and latitude coordinates according to the landmark, landmark can be a mountains, lake, desert, city and etc.) in the currently processed digitized image. As for "previously determined longitude and latitude".

4. As per claims 6-7, Eppler discloses in (Col. 2, lines 28-39), and the georeferencing functions are linear transformation see equations in columns 7-13. And also it is obvious to display the results of a user's requests that create a georeferencing function. As for "creates a georeferencing function" and "georeferencing function is a linear transformation".

5. As per claims 8-10, Eppler discloses in Fig. 2 box numbers 26, 27 and 20 which contain the list of three (or more) point boundary vertices since Eppler using a model. See Fig. 4 box 42 for more referencing functions, as for "three-four point pairs to complete the georeferencing function".

6. As per claims 11 and 12, Eppler discloses in Fig. 4, box 50 image matching algorithms to determine standard error.

7. As per claim 13, Eppler discloses in Fig. 4, box 44 that reading out the points of the second map that corresponds to the selected area in the first map. As for " selection of a point on the first map, and receiving a selection of a point on the second map".

8. As per claim 14, Eppler discloses in (Col. 2, lines 6-12). A disclosed method that automatically determines line and pixel coordinates of landmarks in the digitized image (also can be a scanned map image) with sub pixel accuracy. The system and method use landmarks in symbolic form, and in particular, perimeters of lakes and islands, derived from precise cartographic source materials. The current system is capable of displaying more than one image (raster/vector images) see Fig. 3. Also refer to rejection of independent claim 1. Eppler does not explicitly specify displaying a first map and a second map, however, Eppler on col. 1, lines 43-53 recognizes that in the past, the position of a landmarks in a digitized images was automatically determined using reference images derived from previously acquired digitized images containing the landmark that were matched to the landmark in the currently processed digitized image. This approach has two problems (similar to Applicant's invention). The exact position of the reference image was not known with subpixel accuracy. Also, several different reference images were needed to match landmarks contained in the currently processed image when the reference images were obtained under different diurnal and seasonal conditions. On the

other hand Schipper in the abstract teaches first and second maps. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Schipper into Eppler in order to satisfy the Applicant's invention. Since the accuracy is an important factor in Applicant's invention, therefore, the combination of Schipper and Eppler inventions would provide a proper analysis to evaluate the accuracy of the two inventions. And also a person skilled in the art would spend less time and money to accomplish what the Applicant's invention is claimed.

9. As per claim 16, Eppler discloses in (Col. 2, lines 28-39), and the georeferencing functions are linear transformation see equations in columns 7-13. And also it is obvious to display the results of a user's requests, as for "creates a georeferencing function" and georeferencing function is a linear transformation".

10. As per claims 17, Eppler discloses in Fig. 2 box numbers 26, 27 and 20 which contain the list of three (or more) point boundary vertices since Eppler using a model. See Fig. 4 box 42 for more referencing functions, as for "four point pairs to complete the georeferencing function".

11. As per claim 18, Eppler discloses in Fig. 4, box 50 image matching algorithms to determine standard error.

12. As per claim 19, Eppler discloses in (Col. 2, lines 6-12). A disclosed method that automatically determines line and pixel coordinates of landmarks in the digitized image (also can be a scanned map image) with sub pixel accuracy. The system and method use landmarks in symbolic form, and in particular, perimeters of lakes and islands, derived from precise cartographic source materials. The current system is capable of displaying more than one image (raster/vector images) see Fig. 3. Also refer to rejection of independent claim 1. Eppler does not

explicitly specify displaying a first map and a second map, however, Eppler on col. 1, lines 43-53 recognizes that in the past, the position of a landmarks in a digitized images was automatically determined using reference images derived from previously acquired digitized images containing the landmark that were matched to the landmark in the currently processed digitized image. This approach has two problems (similar to Applicant's invention). The exact position of the reference image was not known with subpixel accuracy. Also, several different reference images were needed to match landmarks contained in the currently processed image when the reference images were obtained under different diurnal and seasonal conditions. On the other hand Schipper in the abstract teaches first and second maps. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Schipper into Eppler in order to satisfy the Applicant's invention. Since the accuracy is an important factor in Applicant's invention, therefore, the combination of Schipper and Eppler inventions would provide a proper analysis to evaluate the accuracy of the two inventions. And also a person skilled in the art would spend less time and money to accomplish what the Applicant's invention is claimed.

13. As per claim 20, Eppler discloses in Fig. 2 box numbers 26, 27 and 20 which contain the list of three (or more) point boundary vertices since Eppler using a model. See Fig. 4 box 42 for more referencing functions. Also Eppler discloses in Fig. 4, box 50 image matching algorithms to determine standard error.

14. As per Claim 21, Schipper illustrates in Figs. 3-6 and 9 a polygon, formed by the outline of point pairs.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-746-8705.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Javid A Amini
Examiner
Art Unit 2672

Javid Amini

+

JEFFERY BRIER
PRIMARY EXAMINER